

# Facilities Quarterly

ERNEST ORLANDO LAWRENCE BERKELEY NATIONAL LABORATORY ♦ FACILITIES DEPARTMENT NEWSLETTER

JULY  
2001

## NEW GENERATOR PROTECTS LAB FROM OUTAGES

Faced with the looming certainty of sitewide electrical outages as a result of California's energy crisis, Berkeley Lab has taken action, purchasing a standby generator to ensure a reliable power supply.

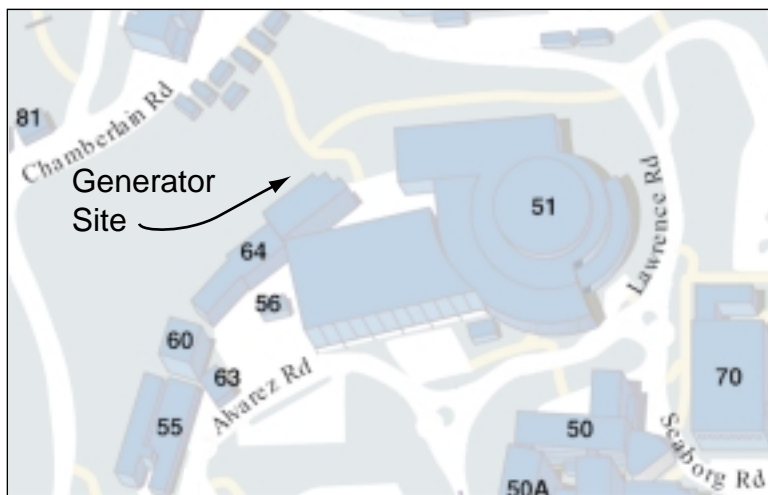
This step became a matter of urgency on April 4, 2001 when the California Public Utilities Commission ordered Pacific Gas & Electric to include transmission-

level service customers, who had been exempt, in California's rotating power outage program. Berkeley Lab, which takes its power at Grizzly Substation from PG&E's 115-kilovolt (kV) transmission system, is one of these customers and therefore could have expected at least 15 sitewide outages per year over the next two years. At a minimum cost of \$700,000 per outage—resulting from lost productivity, interrupted research, and damage to research and facilities equipment—that's at least \$21 million in losses over two years.

To avoid this major budgetary hit, Berkeley Lab is planning to take advantage of a more acceptable alternative: PG&E's Optional Binding Mandatory Curtailment (OBMC) Plan. Under the OBMC Plan, whenever the PG&E service territory (not just the local area) experiences a rotating outage, PG&E would request a reduction of 5, 10, or 15 percent below Berkeley Lab's baseline electrical power consumption, to be achieved within 15 minutes of notification. The baseline is calculated from use of grid power on the previous 10 "similar" days; for example, if the curtailment occurs on a work day, the previous 10 work days would be used, excluding weekends, holidays and previous curtailment days.

In theory, the total amount of power saved by participating in OBMC is the same as under the rotating outage program, but OBMC also conserves electric-

*continued on page 4*



Berkeley Lab's new standby generator is under construction behind Building 64.

## PLAN AHEAD FOR YEAR-END PROJECTS

The end of the fiscal year is a busy, often frenetic, time. In addition to meeting government reporting deadlines, scientific divisions within Berkeley Lab often have to quickly decide what small construction projects they need and can finance with supplemental funds from the Lab's operating budget, funds that disappear after September 30.

Since such small projects are often not a top planning priority, they continually get shunted to the bottom of the to-do pile—until August or September arrives and the rush to spend money on small projects begins. An unfortunate result of all this haste can be a project that satisfies no one, neither scientists nor Facilities personnel.

Chuck Taberski, Facilities Small Projects Group project manager, wants to change this situation. Here are some suggestions for divisions looking to start construction projects:

*Now, July, is the time to start year-end projects.* Earlier planning saves money. During September, because of the work crunch, Facilities craftspeople need to work overtime. Overtime work, whether

done by in-house personnel or subcontractors, costs more.

*The longer a division waits, the more likely contract labor will be required.* As the work intensifies in September, Facilities relies on contract labor to provide needed

*continued on page 4*

## INSIDE

Tan-Outs	2
Diversity Committee	2
Ken Fletcher to Speak	3
From the Facilities Manager	4
Focus on Service: Conference Room Website	5
Compliments	5
Construction and You	6
Projects	7

Facilities Quarterly is available online at  
<http://www.lbl.gov/Workplace/Facilities>.

## "Tan-Outs": A Quick Fix for Power Woes?

*Facilities electrical engineer Steve Greenberg was contacted recently by California Energy Commissioner Art Rosenfeld (former head of the EET Division's Center for Building Science) for his thoughts on a proposal by Dr Bill Wattenburg—an engineer (and KGO talk show host) with a history of out-of-the-box thinking—to use "dynamic CVR" to mitigate California's ongoing energy crisis. The following is based on Steve's summary.*

Wouldn't it be great if California could cut its electrical demand by a power plant or two—in a few weeks' time and with no capital cost? Too good to be true? California utilities are testing just such a scheme, a new twist on an old technique known as "conservation voltage regulation" (or "conservation voltage reduction," or just CVR) which would lower the voltage delivered to utility customers by 2.5 percent.

While working on an innovative remote-controlled alternative to rolling blackouts, Bill Wattenburg wondered about the potential of CVR to address this year's power shortages. Wattenburg enlisted the support of the California Energy Commission, in particular Commissioner Art Rosenfeld.

CVR has been around for over 20 years. It exploits the fact that the American National Standards Institute (ANSI) specification for voltage delivered to the residential customer is 120 volts +/- 5 percent, or 114 to 126 volts (V). Before CVR, utilities tended to keep the average voltage above 120V to give them a greater safety margin during periods of unusually high loads (and to maximize energy sales). CVR was used as an emergency measure following the 1973 OPEC oil embargo, when power in California was normally supplied at 110V. Voltage reduction of 3 to 5 percent during emergencies is a common strategy in many states.

During the '70s and early '80s, various parties, including the California Public Utilities Commission (CPUC), saw an opportunity for savings in applying CVR under normal conditions. The CPUC ultimately ordered the California utilities to limit delivery voltage to the range of 114 to 120 volts. The utilities complied, although by subsequently increasing the size of many of their distribution feeders, they actually increased

the average delivery voltage (by narrowing the difference between voltages for customers closest to and farthest from the substations). Wattenburg's recent measurements showed most customers' voltage at about 118 V.

Utilities control the voltage by changing "taps" at their substations (which typically drop the transmission voltage from 115 kV to about 12 kV). Taps are connectors that allow power to be taken at different points (therefore different voltages) on the secondary (12 kV) winding of the transformer. The taps are changed under load without interruption of service. Some substations' taps must be directly changed at the substation, but many are remotely controlled. The same personnel and communication system used for rolling blackouts would be used to implement CVR.

For the past two months, a team assembled by Rosenfeld, headed by

Wattenburg, and including engineers from Pacific Gas & Electric (PG&E), Southern California Edison (SCE), and San Diego Gas and Electric (SDG&E), has been working at the PG&E Technical Center in San Ramon to arrive at a CVR strategy for the current crisis. The tentative result is a plan to reduce electricity demand by 1 to 1.5 percent by dropping voltage 2.5 percent at utility substations and transformers. This represents a decrease of 3V in the maximum delivery voltage, to 117V. This should still keep customers above the 114V presently required by the CPUC, despite any voltage sag on the lines between the substations and the customers. Because only some of the power companies (like SCE) have remotely controlled substations, the plan is to drop the voltage all summer.

But will CVR make refrigerators melt down, computer monitors go dark, and

*continued on page 3*

## Facilities Diversity Committee Formed

Facilities Department Manager Bob Camper has established a Diversity Committee to address the following concerns:

- The Department has experienced little-to-moderate success in the recruitment and retention of a diverse workforce.
- Support is needed to develop and implement resources and strategies to improve Department diversity efforts.
- Line management is responsible for assuring that diversity awareness is integrated into departmental activities and decision making and for communicating its importance and value.

The Diversity Committee is tasked with achieving the following goals:

- Develop and implement a Diversity Recruitment Resource Guide for the Department.
- Serve as a resource for the Department's diversity efforts; specifically, planning and implementing proactive efforts designed to enhance the work environment.
- Facilitate the Peralta Community College District School-to-Career program.

Departmental employees were invited to participate, and the following were selected to form the FY01 Diversity Committee: Sandra Bell, Charles Benjamin, Nel Boone, Michael Botello, Archie Duncan, Mahesh Gupta, John Hutchings, Mack Morgan and Gavin Robillard. John Hutchings and Nel Boone accepted the responsibility of co-leadership. The Diversity Committee will report its conclusions to management and Facilities Department staff members.

The Diversity Committee will distribute the Diversity Recruitment Resource Guide to all Facilities supervisors at the beginning of July. Comments and feedback on the Resource Guide are welcome.

## KEN FLETCHER TO SPEAK AT MAXIMO CONFERENCE

Ken Fletcher of Operations and Maintenance has been selected as a presenter at the Maximo User Group 2001 conference to be held July 22-25 in Orlando, Florida.

Fletcher's talk is based on a pilot project in which staff from MIS, Crafts, Central Stores, and Administrative Services test Maximo's effectiveness in enhancing the Heating, Ventilation, and Air Conditioning (HVAC) shop's preventive maintenance process.

Historically HVAC has found it time-consuming to order parts and materials used in preventive maintenance of both Facilities and research equipment. Fletcher and the project team saw a solution in Maximo's Work Plan Materials and Inventory applications. Now, when a

work order is approved, Maximo automatically sends a listing of needed materials to the Stores buyer. The buyer compares this list with current inventory stock (also managed by the Maximo database), to determine which parts and materials need to be ordered. This allows the buyer to reserve orders in advance and order materials for "just in time" delivery.

Maximo also allows crafts supervisors to schedule maintenance procedures in a number of ways—weekly, quarterly, annually, semiannually, and even biennially. Fletcher anticipates that this will make it easier to record and share procedures, facilitate training, and preserve institutional standards.

According to the pilot team's findings, maintenance jobs completed on

time for the HVAC Shop have increased 40 percent since Maximo was implemented in February 2000. Resulting shorter lines at Central Stores, the ready availability of parts and materials, and well-maintained equipment mean less time spent on costly emergency maintenance. Under the pilot program, the HVAC shop maintains approximately 400 air conditioning units. Facilities plans to integrate another 1700 units into the program by the end of July.

Fletcher attributes his opportunity to speak at the Maximo conference to the dedicated work of team members Frank Yee of MIS, John Hutchings and Larry Begley of Crafts, Bruce Simpson and Tony Luiz of Stores, and Dayna Barrett of Administrative Services.

## POWER WOES *continued from page 2*

clocks run slow? Recent tests at PG&E in San Ramon demonstrate that even a 10-V drop presents no danger to home appliances or commercial equipment. In fact, all home appliances and most commercial equipment operate more efficiently at 110V than 120.

All devices using power from the grid have a range of voltage over which they will operate acceptably. Typically, for loads designed for nominal 120-volt systems, the voltage is 115V +/- 10 percent, or 104V to 127V. This allows for voltage drop between the utility meter and the load. Computers are typically rated to operate on systems as low as 100 volts, compensating for the lower voltage and drawing the same amount of power. Electromechanical clocks use synchronous motors, which are locked into the AC power frequency (which will remain constant) and can operate over a wide voltage range at constant speed. Electronic clocks either use the AC frequency as a signal or a chip to generate the time base.

Incandescent lighting might be noticeably less bright, since its power demand drops with the square of the voltage, so that light output drops faster than the power reduction. Fluorescent lighting input power drops in an approximately linear fashion, roughly equal to the percent voltage drop, so the change in light level with fluorescent lighting is unlikely to be noticeable.

Resistance heat devices, such as electric dryers, electric water heaters, and electric stoves, will take a bit longer to complete their tasks. This will reduce the overall savings somewhat, since if loads are on longer, then across California more of them will be on at the same time.

Different types of loads react to voltage variations in different ways, but in general the power required (measured in watts) decreases as the voltage is lowered. Tests conducted at PG&E's San Ramon research center indicate that a typical house has a 6-percent reduction in power for an 8-percent reduction in voltage. Air conditioning drops by 2 percent, pool pumps by 4 percent, and fluorescent lighting by 9-10 percent.

A properly matched motor and its driven load (pump, fan, etc.) operating on a properly designed and installed electrical system will have no problem operating at voltages at 10 percent (and often more) below their design (which is already 4 percent below the nominal supply voltage). This includes motor-driven appliances (refrigerators, air conditioners, etc.) and the vast majority of other motor applications. The rare motor that is already significantly overloaded, or is operating on a circuit with excessive voltage drop or imbalanced voltages in a three-phase system, may trip its overload protection or (in ex-

treme cases) fail to start or to remain running under load. Motor users should check for overloaded motors or improper voltage conditions. Lightly loaded motors, on the other hand, will run more efficiently and cooler, and have extended lives under reduced voltage conditions. Only improperly applied motors without proper overload protection (violating both manufacturers' application requirements and electrical codes) would be at risk of burning out. All other motors will run fine or, if overloaded, trip their overload protection.

Overall, the damage done during a tan-out is insignificant compared to the potential for widespread power surges that can occur during service restoration following a blackout.

The overall savings potential appears to be about 0.5 percent of power for each volt reduction on a 120-volt system (or the equivalent percentage on 208, 240, 277 or 480-volt systems). Doesn't sound like much? A 3-volt reduction, resulting in a 2.5 percent power reduction, is worth at least a full-size (500 megawatt) power plant, which could be the difference between a Stage 3 and Stage 2 Alert from the ISO. This could potentially save hundreds of millions of dollars, since the price of power under peak conditions skyrockets. Because of this potential and favorable test results, CVR will almost certainly be imposed in the near future.

## NEW GENERATOR *continued from page 1*

ity by not sending hundreds of employees home, where they would use far more electricity than they would at work.

Rated at 2 megawatts (MW), the new diesel generator will be capable of handling up to 15 percent of Berkeley Lab's peak load. Designed for just this kind of standby use, it can start up quickly and operate in tandem with the utility power supply without any degradation of quality. The preferred choice for siting the unit is an existing equipment pad adjacent to the new Blackberry Switching Station, just north of Building 64. Alternative siting would be adjacent to Grizzly Substation. The generating unit could connect to the sitewide power distribution system at either Blackberry Switching Station or Grizzly Substation. In addition to the diesel generator itself, the installa-

tion will include a utility paralleling panel, sound attenuation enclosure, exhaust silencer, catalytic converters, above-ground fuel tank, and electrical cabling, relaying, controls, and metering.

The attenuation enclosure will reduce the sound level during operation to 85 decibels at 23 feet from the generator set. Initial testing indicates that this would be difficult to hear except in immediately adjacent work areas. A double-containment above-ground fuel tank can provide 70 hours of operation at rated capacity, although it is doubtful that the generator will need to operate continuously for more than two days. The above-ground tank design facilitates leak monitoring and maintenance.

The diesel engine will meet the best available control technology (BACT)

standards for particulate matter emissions required by the Bay Area Air Quality Management District (BAAQMD). It will burn low-emission California Air Resources Board (CARB) diesel fuel. BAAQMD has given Berkeley Lab a Discretionary Use Permit that allows operation of the generator for 496 hours per year—well beyond the anticipated need of 213 hours per year. The generator would not operate when reductions are not called for or can be achieved by other means that don't affect employee productivity, as when the Advanced Light Source has reduced its demand for power on a maintenance day.

Although several options were considered, a new generator was found to be the best solution. It can be installed quickly—an important point, considering that a rotating outage could happen at any time—and can be relied upon to consistently start up and provide the needed capacity within the required 15 minutes' notice. Another advantage is ease of installation: an existing site is available where it can be installed and

*continued on page 8*



### FROM THE FACILITIES MANAGER...

Since energy is on everyone's mind I would like to thank all the Laboratory staff for their cooperation in reducing energy in the past three months. In a test held by the California Energy Commission, Federal agencies reduced their usage 7% during a 90-minute period. Although there have been no blackouts recently we are not stopping our plans to provide the Laboratory adequate protection.

Funding has been very tight this year and we do not expect next year to be better. Each of us must do our best to conserve money. We have been very successful in lowering our accident rate because each of you participated. It is now time to extend that commitment and ingenuity to cost saving.

We are working on two exciting projects for the researchers. Material Science has received approval of mission need (CD-0) for a new building in Old Town next to the ALS. The building, named the Molecular Foundry, will expand the Laboratory's nanoscience research. We are working to obtain CD-1 in the next few months. We are also preparing CD-0 documents for a new Energy and Environment research building. The Facilities Building for which we were hoping has been delayed in favor of a Research Support Building at the building 29 site. We hope to have funding for that in FY 2003.

Despite the progress noted above, our safety record was not good this last quarter. There were four accidents in May and, although this is better than the eight we had in May 2000, **we can do better!**

*Bob Camper*

Work SMART...

WORK SAFELY...

If it is not safe, STOP the work.

## YEAR-END PROJECTS

*continued from page 1*

personnel. Contractors have higher rates than LBNL craftspeople.

*More on subcontracting (and saving money):* The more time Facilities has to set up the subcontracting agreement, the better the price Facilities can obtain to complete work within the limited time.

*Ordering equipment and furniture takes time.* A Steelcase furniture order usually takes six weeks minimum, eight to be safe. The normal lead time for HVAC equipment is six weeks plus time for installation.

Starting a small project is easy: a call to the Work Request Center is all that's required. SPG responds to work requests in a week or less. The SPG can also do preliminary estimates for unfunded projects—these take from a few hours to a week.

The message is clear: *don't wait*. It will be a happier experience for everyone if divisions take (comparatively little) time now to decide how best to spend end-of-year construction funds.

## FACILITIES DEPARTMENT

Facilities provides Berkeley Lab with a full range of architectural and engineering, construction, and maintenance services for new facilities and for modification and support of existing facilities.

Architectural and engineering services include facility planning, programming, design, engineering, project management, and construction management. Maintenance and construction functions include custodial, gardening, and lighting services; operation, service, and repair or replacement of equipment and utility systems; and construction of modifications, alterations, and additions to buildings, equipment, facilities, and utilities. Additional services include bus

and fleet management, mail distribution, stores distribution, property management, property disposal, cafeteria operations, and electronics repair.

Ongoing Facilities activities include renewal and upgrade of site utility systems and building equipment; preparation of environmental planning studies; in-house energy management; space planning; and assurance of Laboratory compliance with appropriate facilities-related regulations and with University and DOE policies and procedures.

The Work Request Center expedites facility-related work requests, answers questions, and provides support for facilities-related needs.

## FOCUS ON SERVICE: CONFERENCE ROOM WEBSITE

In a move designed to streamline Berkeley Lab's institutional conference room reservation system, Facilities has teamed up with the Technical and Electronic Information Department (TEID) to offer "one stop shopping" for conference room reservations and services through the Facilities Conference Room website.

Whether your meeting is large or small, the website, at [web5.lbl.gov/conf\\_rooms/](http://web5.lbl.gov/conf_rooms/), is a useful resource, allowing you to locate the conference room that's right for you, check its availability, and submit a reservation request for the room and its equipment. It should be noted, though, that non-institutional conference rooms—those maintained by individual divisions—are not available through the Conference Room website.

The website's slideshow "tours" of all 20 Facilities-maintained institutional conference rooms show seating

arrangements, lighting, and overall setup from the front, back, and sides. Also detailed are room amenities, such as PA systems, projection booths, overhead projectors, lecterns, and network connections and IP addresses.

Computer network connections in all institutional conference rooms are active and ready for use, and a knowledgeable user should have no trouble in connecting a PC or Mac. Questions about network connectivity should be directed to LBLnet at extension 4559 or by email to [lblnet@lbl.gov](mailto:lblnet@lbl.gov).

The website also identifies conference rooms that have dedicated audio-visual systems and video conferencing. These services are arranged separately through TEID Audio Visual and the Networking and Telecommunications Department (NTD), respectively. Meeting planners

*continued on page 8*

## COMPLIMENTS

David Knowles and Damir Sudar of Life Sciences called on the Electrical Shop when a new Zeiss laser power supply for a confocal microscope arrived with the wrong kind of plug. According to Knowles, "One call to you was all that was needed. Within the hour George Ames was in our lab and Jon Gibson was on the phone. Shortly after that a solution was agreed upon and Jon had made an electrical connector and hand-delivered it to our lab. Without this prompt response the Zeiss guys...would have taken off, leaving us waiting for another couple of weeks."

Ruth Pepe of the Materials Sciences Division is grateful to Tammy Brown of Bus Services for helping her make last-minute preparations for the arrival of a delegation of 40 prominent Italian scientists. "The day before their visit I received a phone call...asking where the Greyhound Bus should go once it arrived at the main Gate. After a very short investigation I found that several arrangements had not been made. I immediately called Tammy to find out what to do.... She gave me instructions on what to tell the campus folks, instructions for the bus driver, what to put on the gate pass so they would be escorted to the cafeteria and not get lost—she just took care of everything. Without this kind of dedicated effort and much-needed help we would have suffered a great deal of embarrassment."

Dr. Jerry English of EH&S writes that riggers Kevin Trigales and Larry Reyes performed a very sensitive task in the Pitroom (B70-147A). "They had to move a very heavy lead cave from one side of the Pitroom to the other, SAFELY, without jeopardizing the integrity of the Pit and its high-level radioactive contents, and in extremely awkward conditions consisting of minimal maneuvering room. I was impressed with the high level of professionalism and careful consideration of all aspects of the move. You have an excellent crew and should be proud of them."

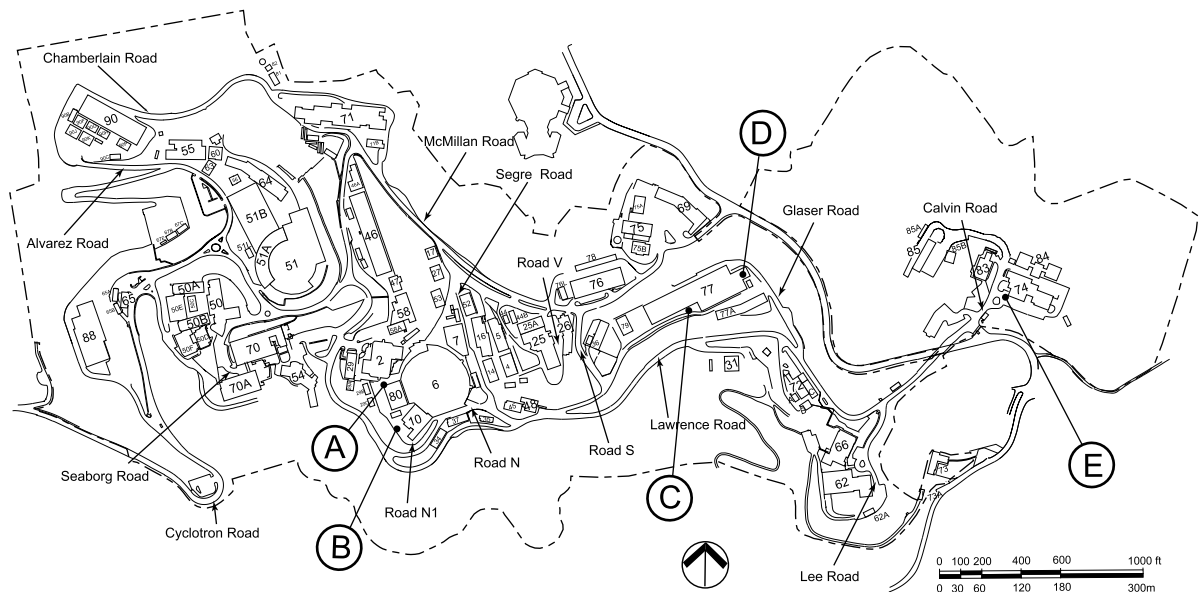
## WORK REQUEST CENTER

Telephone	6274
Fax	7805
E-Mail	<a href="mailto:WRC@lbl.gov">WRC@lbl.gov</a>
Mailstop	76-222
Web	<a href="http://web3.lbl.gov/wrc">web3.lbl.gov/wrc</a>

WRC welcomes questions or comments about Facilities Quarterly.

# CONSTRUCTION AND YOU

Current construction projects affecting parking, or vehicular or pedestrian circulation



**Project Contacts.** The name in parentheses after each project is the Project Manager (PM) or other person who is responsible for project oversight: coordinating all phases from design through construction; controlling cost, scope and schedule; and ensuring client satisfaction. This person will be happy to answer any questions about the project.

**Bldg 2: Ventilation Upgrade Project**

A

JUL	AUG	SEP
Parking spaces along the south side of Bldg 2 will be reserved for contractor use. (Richard Stanton, x6221)		

**Bldg 80: Room 109 Modifications**

B

JUL	AUG	SEP
Parking spaces on the west side of Building 10 will be reserved for contractor use. (Richard Stanton, x6221)		

**Bldg 77: Rehabilitation of Building Structure and Systems**

C

JUL	AUG	SEP
Construction is in progress around the building perimeter and in selected areas within the building. Laydown areas will be located adjacent to Building 77 and Glaser Road. (Bill Wu, x5216)		

**Bldg 77-142: Clean Room Installation**

JUL	AUG	SEP
Construction started in May. Location of laydown areas and contractor parking area are at the east end of Building 77. (Bill Wu, x5216)		

D

**Bldg 74: Expansion of Annual Holding Facility**

JUL	AUG	SEP
Parking spaces near the southwest corner of Building 74 will be reserved for contractor parking and laydown areas. (Richard Stanton, x6221)		

E

**“CAUTION—CONSTRUCTION AREA”**

Construction barricades and warnings are there for your protection. Under no circumstances should you cross a construction barricade, or disobey posted warnings or directions. Contact the Project Manager for escorted access to construction areas.

## ON THE DRAWING BOARD

*projects in study or conceptual design*

### Building 77—Rehabilitation of Building Structure and Systems, Phase 2

This project will correct mechanical, electrical and architectural deficiencies in Buildings 77 and 77A. The conceptual design phase is in progress. Funding will be requested for FY 2003. (Bill Wu, x5216)

### Rehabilitation of Site Mechanical Utilities, Phase 2

This project will extend the useful lives of Berkeley Lab's natural gas, low conductivity water (LCW), compressed air, and storm drain systems. All service risers in the natural gas system will be replaced with nonmetallic pipe. LCW system aluminum pipe will be replaced with stainless-steel pipe. Cathodic protection will be added to

the compressed air system. Steel pipe in the storm drain system will be replaced or relined. Facilities has prepared a conceptual design report for FY 2002 funding consideration. (Dan Galvez, x6213)

### Research Support Building

Planning is going forward on a new 2,900 sq m (30,000 sq ft) building that will house key Berkeley Lab administrative functions now scattered across the site. This "Town Center" will be located on the site of Building 29, which will be demolished. Its central location will allow efficient administration and easy access for all staff and guest researchers. (Richard Stanton, x6221)

## IN PROGRESS

*funded projects*

### Bldg 2: Pipe Bypass

Drainage from laboratory sinks on the first floor of Building 2 will be rerouted to a new overhead piping system connecting to the building's acid waste treatment unit. (Richard Stanton, x6221)

### Bldg 2: Ventilation Improvements

This project will upgrade the heating, ventilation and air conditioning system in Building 2 to provide improved temperature control, improved pressure control and increased exhaust air capacity. (Richard Stanton, x6221)

### Bldg 6: Sector 4 Support Building

Project design is in progress for an equipment staging area for Beamline 4. This 100 sq m (1,100 sq ft) single-story addition will be located between buildings 10 and 80, on the west side of Building 6. (Dan Galvez, x6213)

### Bldg 29: Disassembly of Building 29

This project will disassemble Building 29, which has been condemned and vacated. The project will include retrieval of building elements that can be reused by LBNL organizations or offsite vendors. (Richard Stanton, x6221)

### Bldg 74: Animal Holding Facility Expansion

This project will convert Building 74 rooms 223, 227, and 231 from wet lab use to animal holding rooms. Room 235 will be modified for use as a procedure room. The work includes demolition, HVAC, electrical, plumbing, painting, doors, and hardware. (Richard Stanton, x6221)

### Bldg 77: Rehabilitation of Building Structure and Systems

Construction started in November. This project will arrest differential settlement of Building 77, replace build-

ing cross bracing, and realign bridge crane runways. (Bill Wu, x5216)

### Bldg 80: ALS Modifications to Room 80-109

New wall openings, with rollup doors, will be installed in Building 80 room 109 to provide additional ALS beamline end station space, while maintaining ALS perimeter access walkways. (Richard Stanton, x6221)

### Bldg 88: Seismic Anchoring

Architectural and engineering final design has been completed for seismic reinforcement of caves 1 through 5. Completion of work in caves 2, 4 and 5 is scheduled for FY01. (Bill Wu, x5216)

### Grizzly Substation Improvement

Amelco Electric, under contract to the University of California, has begun construction of improvements to the Grizzly Substation. The substation is de-energized, and all LBNL electrical power is being supplied by the University's new Hill Area Substation, located at the corner of Road S and Glaser. (Chuck Taberski, x6076)

### Sitewide Water Distribution Upgrade, Phase 1

Much of Berkeley Lab's fresh-water supply system has been in place for over 30 years. This project will replace about 0.9 mile (1.5 km) of cast iron pipe and upgrade the remaining 5 miles (8 km) of pipe with corrosion protection, new valves, pressure reducing stations, improvements to an existing water storage tank, and a new water storage tank in the East Canyon area. Project design is in progress. (Dan Galvez, x6213)



## FOCUS ON SERVICE *continued from page 5*

who reserve conference rooms through Netscape Calendar receive an email reminder to contact TEID for audio-visual services and NTD for video conferencing. Although a room may have a pre-installed projector, reserving a room through Facilities doesn't automatically book audio-visual equipment or services.

To reserve in-room or portable audio-visual systems, follow the link from the Conference Room website to TEID A-V Services' online order form ([www-library.lbl.gov/teid/tmAv/order/AvOrder.htm](http://www-library.lbl.gov/teid/tmAv/order/AvOrder.htm)). For a listing of AV equipment rental and service rates see [www-library.lbl.gov/teid/tmAv/services/AvServices.htm](http://www-library.lbl.gov/teid/tmAv/services/AvServices.htm). Charges for audio-visual services and equipment rental are separate from charges for other conference room services.

TEID A-V Services asks conference coordinators to keep the following in mind when planning for an event:

- Schedule the conference room for an additional 30 minutes before and after the event to allow for the set-up and breakdown of A-V equipment.
- Submit your request to A-V at least two business days in advance of the event. Requests made with less than two business days notice will be billed at the "rush order" time-and-a-half rate. Same-day requests, or "emergency requests," are also billed at time-and-a-half.

NTD Video Conferencing Services provides technical support, scheduling, and coordination for Berkeley Lab's four institutional video conferencing rooms: 50B-4205, 50F-164, 90-3075, and 6-2202. Given today's tight travel budgets, videoconferencing is an increasingly valuable capability. According to Ed Ritenour, who oversees the service, "It's cheap compared to travel and it is a great way to bring several working groups together, conduct interviews with remote applicants, or even bring several laboratory groups together." Conference rooms vary in size and features, so its best to discuss your conferencing needs with the

video conferencing staff to ensure that a room is reserved that fits your needs. In addition, a portable unit can be set up in small private conference rooms or large rooms like Perseverance Hall. Martin Jara, the video-conferencing room coordinator, encourages new and old users alike to contact him by phone at x6767 or e-mail at [info-update@lbl.gov](mailto:info-update@lbl.gov), to discuss their anticipated needs. "It's easy to get started," says Jara. "We provide hands-on assistance at the start of each meeting at no extra charge." Once your needs are determined, you can submit an online service request form at [www-cnr.lbl.gov/vcs/vcf.request.html](http://www-cnr.lbl.gov/vcs/vcf.request.html). Online requests are forwarded directly to Jara, who reviews the request, assigns the appropriate room, and coordinates services with network technicians.

Facilities oversees the general maintenance of institutional conference rooms, ensuring that the rooms and furniture are in good condition. Bob Berninzoni, Facilities Superintendent, reminds conference coordinators to arrange institutional conference room setups, such as additional furniture, when you contact the Work Request Center to reserve the conference room. The Work Request Center will initiate the necessary work orders—to Transportation, for example, for additional tables or the Facilities sign shop for fabrication of conference signs and installation at locations around the Lab.

According to Berninzoni, the conference room website will soon have a link for ordering and scheduling food and beverage services from the cafeteria. Currently, food and beverage service must be requested from the cafeteria on a separate form, which is then delivered or faxed to the catering office. There is no cost to make a reservation for a conference room, but these additional services do require an account number.

If you have questions regarding conference room arrangements, please contact Denise Iles at x6011 or the Work Request Center at x6274 or [wrc@lbl.gov](mailto:wrc@lbl.gov).

## NEW GENERATOR

*continued from page 4*

tied into the Lab's distribution system at Blackberry Switching Station (SW-A6). The 12kV circuit breakers at SW-A6 can be easily reconfigured to accommodate the generator. Finally, at an estimated cost of \$1 million, it will more than pay for itself by getting the Lab through just three of the 30 rotating outages expected in the next two years.

Installation of the diesel generator has begun, with completion due by the end of August. In the meantime a backup plan is in place to achieve the necessary reductions by turning off power at selected buildings, as follows:

- **5% reduction:** 4, 4A, 5, 5 trailers, 7, 7 trailers, 14, 31, 31A, 40, 41, 42, 48, 68, 75, 75 trailers, 76, 76 trailers, 77, 77 trailers, 77A, and 78. In addition, a level-one email message will call for reduced optional energy use.
- **10% reduction:** All of the above plus 25, 25A, 26, 42A, 44A, 44B, 45, 45A, 46, 46 trailers, 47, 48, 48A, 51B, 53, 58, 63, and 64.
- **15% reduction:** All of the above plus 51, 55, 55A, 56, 60, 71 complex, 90, and 90 trailers.

Facilities Deputy Head Margaret Goglia, who is leading the Facilities OBMC team, sees energy awareness as a long-term commitment at the Lab, noting that, "Berkeley Lab is proud of its accomplishments in reducing its energy use, which has consistently decreased over the past 10 years. These cumulative energy savings, coupled with Berkeley Lab participation in the OBMC Plan, contribute to alleviating the current power shortage."


Chuck Taberski (x6076) is project manager for the diesel generator construction project. He will be happy to answer questions about the project itself. Questions regarding Berkeley Lab's power curtailment planning should be addressed to Mechanical-IHEM section head Doug Lockhart at x5120.

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